Presentation to the BWG on . . .

BWG and IWG COORDINATION

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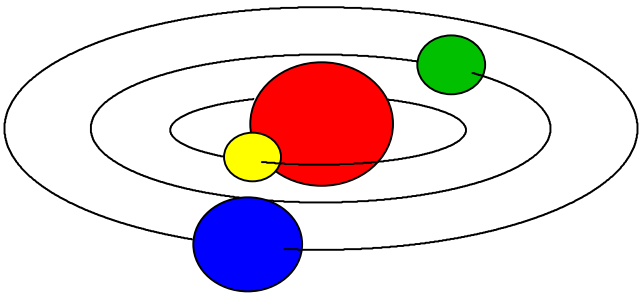
Incinerator Work Group

February 26, 1998

OVERVIEW OF PRESENTATION

- Background on Section 129 and ICWI/OSWI
- The RAP
- Suggestions for Coordination

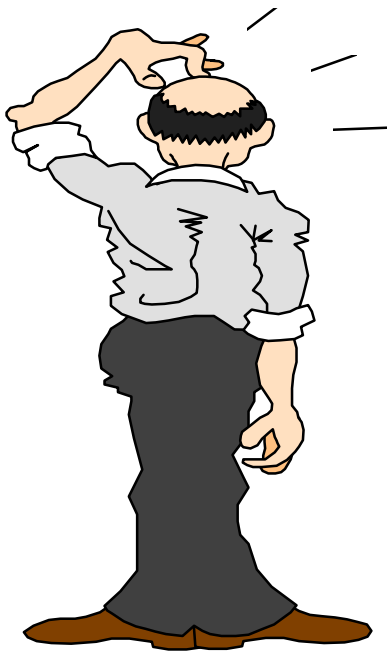


WHAT DOES SECTION 129 APPLY TO ?

- *Solid waste incineration units combusting commercial or industrial waste* **[ICWI]** . . . *129(a)(D)*

- *Other categories of solid waste incineration units* **[OSWI]** . . . *129(a)(E)*

- MSW, HMIW



IMPLICATIONS FOR BWG ?

- Section 129 Solid Waste Incinerator Definition:

  The term "solid waste incineration unit" means a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public . . . 129(g)(1)

- Definition includes boilers and process heaters (*Any solid waste* has yet to be defined)

ICWI AND OSWI CATEGORIES

(December 28, 1994 FR Notice)

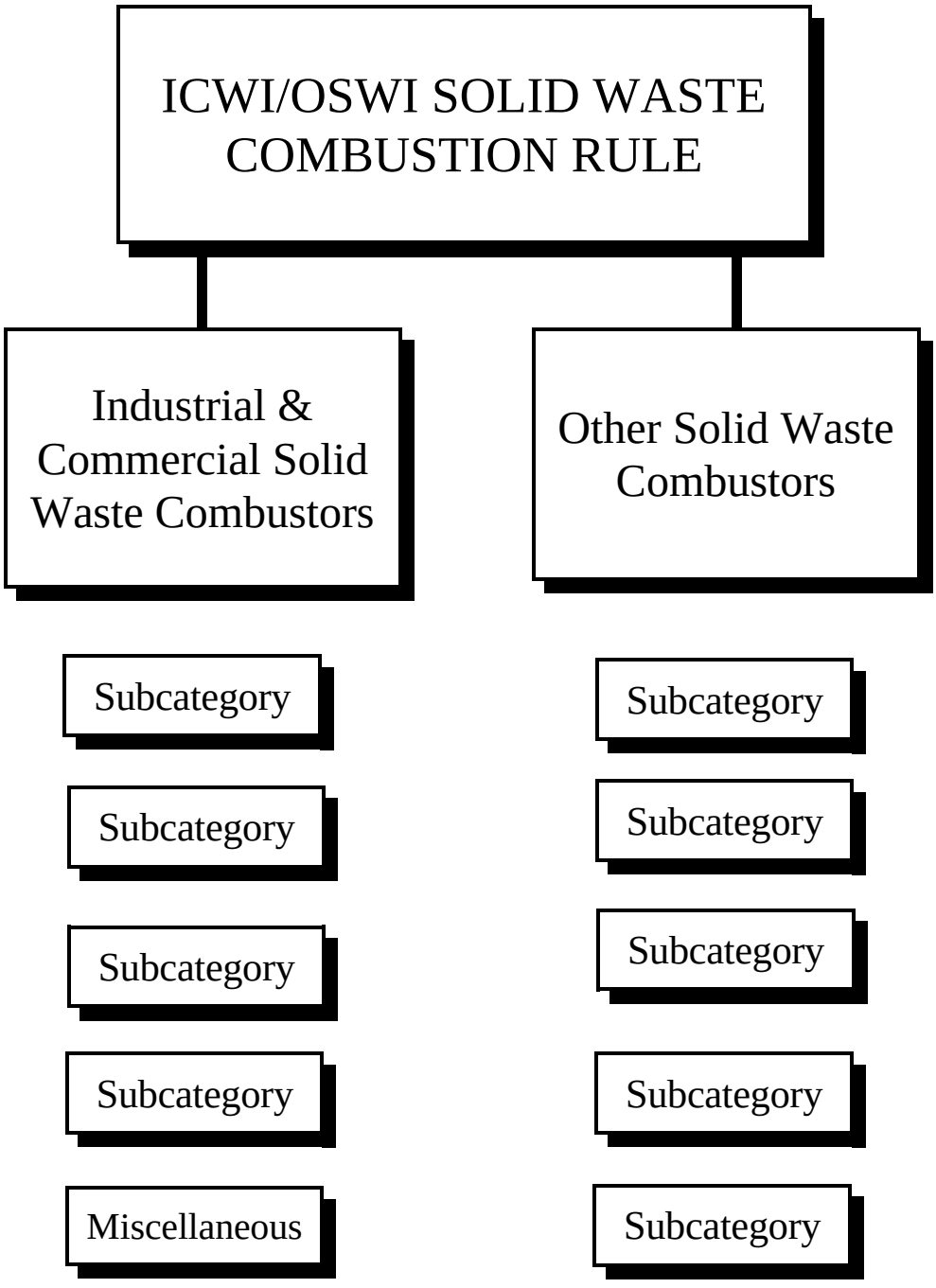
■ OSWI CATEGORIES

1. MWC's with plant capacities less than 35 Mg/day
2. Residential incinerators
3. Agricultural waste incinerators
4. Wood waste incinerators
5. Construction and demolition waste incinerators
6. Crematories
7. Contaminated soil treatment facilities

■ ICWI CATEGORIES

"All other incinerators [excluding large MWCs and MWIs] *burning solid waste other than what has been defined above, are probably industrial and commercial waste incinerators* [ICWIs]*."*

POSSIBLE SECTION 129 REGULATORY FRAMEWORK



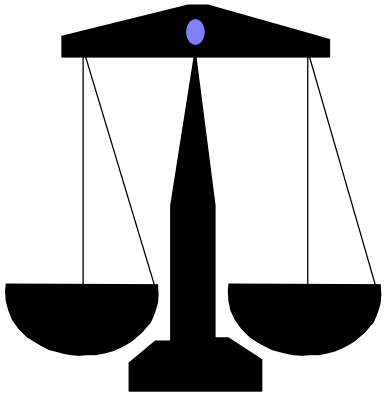
ICWI CONSENT DECREE DATES

- Complete ICR data entry
  October 15, 1997

- **Develop regulatory alternatives "white paper"**
  November 16, 1998

- Proposal
  November 15, 1999

- Promulgation
  November 15, 2000



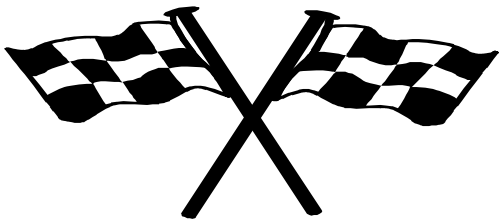
WHAT'S THE RAP?

*(**R**egulatory **A**lternatives **P**aper)*

- Recommended **subcategories**, **pollutants**, **and control alternatives** for ICWI/OSWI

- EPA to consider RAP in drafting its "white paper"

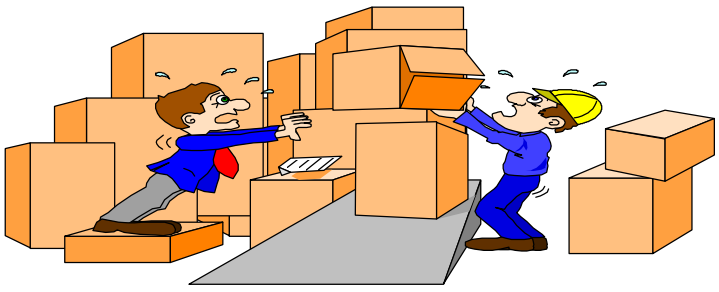
- IWG to take the lead, with assistance from BWG



- Draft due at **July** CC meeting

RAP FORMAT

- Introduction, background, and applicability
- **Subcategory characterizations and regulatory alternatives**
- Issues and needs (optional)
- Steps taken to implement statutes and executive orders (optional)
- **Appendix -- subcategory definition sheets**



DRAFT OUTLINE
REGULATORY ALTERNATIVES PAPER

February 13, 1998

FORMAT: Transmittal letter and attached paper with appendix, two-sided, single-spaced, times new roman, 12 pt.

Transmittal Letter *(one page) — John Devine*

1.0 INTRODUCTION *(one to two paragraphs) — Rick Crume*

- Brief introduction to the ICCR and the IWG (figure of ICCR organization).
- Purpose and organization of this document.
- (Explain that the RAP represents an intermediate step in the standards development process and work continues.)

2.0 BACKGROUND *(three to four paragraphs) — Rick Crume*

- Review of approach taken to develop regulatory alternatives and progress made to date (figure of subteam organization).
- Overview of anticipated regulatory framework, including distinction between ICWI and OSWI (figure of potential regulatory structure).
- Brief review of evolution of solid waste definition.
- (Explain that some subcategory and regulatory alternative characterizations are incomplete and that revisions and refinements will continue as new information is received (e.g., from source tests); specific needs and issues will be summarized in the subcategory characterizations presented below.)

3.0 APPLICABILITY *(two or three paragraphs) — Rick Crume and Jim Eddinger*

- Subcategories and any groupings within subcategories (list or table).
- Applicability to miscellaneous wastes (e.g., <30% MSW, <10%HMIW, and any undefined or unknown wastes).
- Restatement of what is not covered (e.g., RCRA, MWC, and HMIWI units).
- Basis for deciding which boilers and process heaters to include.

4.0 SUBCATEGORY CHARACTERIZATIONS AND REGULATORY ALTERNATIVES *(separate one- to two-page summary sheets for each subcategory or subcategory grouping) — IWG subteams/BWG subgroups*

- Subcategory characterizations and emission control options (including pollution prevention) to be summarized in an appendix, with a separate summary sheet for each subcategory or subcategory grouping.
- The information in the appendix will be summarized in a table (see attached example) — *Rick Crume and Jim Eddinger.*

5.0 ISSUES AND NEEDS *(several paragraphs) — Norm Morrow and Jim Stumbar*

- Summary of the issues and needs that we are facing (e.g., lack of emissions test data for some subcategories), the steps we are taking to address these issues and needs, and any possible delays to our schedule.
- (This section will ensure that the CC understands the challenges we face in developing standards for a large number of subcategories over a relatively short time period.)

6.0 STEPS TAKEN TO IMPLEMENT STATUTES AND EXECUTIVE ORDERS *(several paragraphs) — John Devine*

- Review of the steps being taken by the IWG and/or the CC to address the various statutes and executive orders, including provisions covering pollution prevention, environmental justice, public participation, and small business impacts.
- (This section will ensure that the CC is aware of the steps we are taking to implement the statutes and EOs. If there are any problems with our approach, we want to learn about them far enough in advance of proposal to make adjustments.)

EXAMPLE SUBCATEGORY CHARACTERIZATION AND REGULATORY ALTERNATIVES SUMMARY TABLE

SUBCATEGORY	GROUPING	WASTE	ICWI or OSWI	FLOOR LEVEL OF CONTROL	ALTERNATIVES ABOVE FLOOR	POLLUTANTS TO BE REGULATED	COMMENTS
Whozit Industry	Small whozits (smaller than 5 ton/day)	Waste whozit trimings	ICWI	No control	1. Good operating practices 2. Cyclone 3. Venturi scrubber	Section 129 pollutants	Discussions with equipment vendors and manufacturers underway to investigate more cost-effective control options
”	Large whozits (greater than 5 ton/day)	Waste whozit trimings	ICWI	Good operating and mainten-ance practices	1. Cyclone 2. Venturi scrubber 3. Spray dryer	Section 129 pollutants	Conclusions regarding control options may be revised once emission test program is completed

Note: any pollution prevention control alternatives and environmental justice approaches would also be included in the table.

SUBCATEGORY INFORMATION SHEET FOR RAP APPENDIX

FORMAT: A separate sheet is to be prepared for each subcategory or subcategory grouping. The sheets are intended to closely follow the format already established for our subcategory definitions. However, additional information will need to be added to our existing format to address the requirements of the RAP, as noted below (new information is underlined.) The sheets will probably be about two pages in length and may include tables and/or figures. Database summary tables (summaries of inventory, emissions, and ICR/survey database information) incorporated with the current definitions should be retained and can be placed under the STATUS OF DATA COLLECTION AND ANALYSIS category. An advantage of retaining, but expanding, the current subcategory definition format is that portions of the expanded format could form the basis of the subcategory description sections to be incorporated into a background information document that will probably be needed to support the rulemaking.

SUBCATEGORY NAME:

ASSIGNED CAA SECTION (ICWI OR OSWI):

GROUPING WITHIN SUBCATEGORY:

POPULATION STATISTICS:

MATERIAL COMBUSTED:

COMBUSTION DEVICE:

BASIS FOR SUBCATEGORY BOUNDS:

POLLUTANTS CONSIDERED FOR REGULATION:

FLOOR LEVEL OF CONTROL:

REGULATORY ALTERNATIVES ABOVE FLOOR:

STATUS OF DATA COLLECTION AND ANALYSIS:

ISSUES AND NEEDS:

OTHER COMMENTS:

Subcategory definition sheet -- Example #1

SUBCATEGORY NAME: Chemical, Petroleum and Pharmaceutical Solid, Liquid and Sludge Incinerators

ASSIGNED CAA SECTION: 129 (ICWI)

DESCRIPTION OF TYPES OF MATERIALS COMBUSTED:

Includes industrial wastewater sludges, off-test and out-dated materials, and process discards. In some industries (e.g. pharmaceuticals) associated packaging materials are also combusted in the same incinerator.

GENERAL DESCRIPTION OF TYPICAL COMBUSTION DEVICES:

All types of incinerators are used, including single and multichamber, fluid bed, rotary kilns, multiple hearth and tray types.

BASIS FOR SUBCATEGORY BOUNDS:

OTHER COMMENTS:

May require subdividing once ICR data on wastes combusted is considered.

Subcategory definition sheet -- Example #2

SUBCATEGORY NAME: Wood Incinerators

ASSIGNED CAA SECTION: 129 (OSWI)

DESCRIPTION OF TYPES OF MATERIALS COMBUSTED:

Milled wood wastes and residues result from primary and secondary woodworking manufacturing activities. The moisture content is variable. The specific characteristics of these materials vary depending on the specie of wood. The composition is variable and contains no more than 5% by volume of contaminants such as sand, dirt, particle board, plywood, fiber board, cardboard, paper, glues, sealers, paints, and solvents.

Harvested wood waste and residues result from land clearing, silviculture, and forest management activities. The moisture content is variable. The specific characteristics of the materials vary depending on the specie of wood. The composition is variable and contains no more than 5% by volume of contaminants such as sand, dirt, orchard, nursery, and agricultural wastes.

GENERAL DESCRIPTION OF TYPICAL COMBUSTION DEVICES:

No harvested wood incinerators identified as yet. There may be a few milled wood incinerators, which are believed to be small, natural gas supplemented, forced air units.

BASIS FOR SUBCATEGORY BOUNDS:

OTHER COMMENTS:

Subcategory definition sheet -- Example #3

SUBCATEGORY NAME: Paper and Allied Product Manufacturing Waste and Residue Incinerators

ASSIGNED CAA SECTION: 129 (OSWI)

DESCRIPTION OF TYPES OF MATERIALS COMBUSTED:

Paper and allied product manufacturing wastes and residues result from the manufacture of paper, conversion of paper and paperboard, and the manufacture of paperboard boxes and containers. The moisture content is variable. The specific characteristics of these materials vary from mill to mill, but are predominantly comprised of cellulose from wood, they also may contain as much as 50% by weight of inorganic fillers and no more than 5% by volume of contaminants such as inks, glues, binders, pigments, and oils.

GENERAL DESCRIPTION OF TYPICAL COMBUSTION DEVICES:

No incinerators have been identified in this subcategory. This material is primarily (exclusively?) combusted in boilers.

BASIS FOR SUBCATEGORY BOUNDS:

OTHER COMMENTS:

Subcategory definition sheet -- Example #4

SUBCATEGORY NAME: Parts Reclaimers

ASSIGNED CAA SECTION: 129 (ICWI)

DESCRIPTION OF TYPES OF MATERIALS COMBUSTED:

This type of incinerator is used to reclaim metal parts for reuse in their current form. An organic coating (dried paint, varnish) or part (plastic, rubber) is burned off a wide variety of metal parts in these units. Metal parts fed to these primarily batch units include paint hooks/racks, electric motor armatures, transformer winding cores, and electroplating racks.

GENERAL DESCRIPTION OF TYPICAL COMBUSTION DEVICES:

Parts reclaimers are typically small, batch, fossil fuel-fired units. They are often called burnoff or bakeoff ovens. Operations consist of loading the cold burnoff oven with metal parts, igniting the afterburner, if present, and main burner (usually natural gas fired), and allowing the coating to pyrolyze into an ash-like material (often over a period of hours) which may be then mechanically removed or abrasive-blasted off the metal part. Because of the wide variety of parts recycled in these units, facility size varies widely, from small electric motor repair shops to large automotive assembly plants.

Number of Facilities in ICCRV2 database: 239
Number of Units in ICCRV2 database: 299
Employees per Facility: 1 - 7406 (avg. 675)
Fuel: natural gas (at least 78)
Heat Input: 0.2 MMBtu/hr - 3.7 MMBtu/hr

AIR POLLUTION CONTROL DEVICES from ICCRV2 database:

air pollution control device	number
not specified	168
direct flame afterburner	73
none	36
miscellaneous control devices	4
fabric filter - high temperature	3
catalytic afterburner - heat exchanger	3
direct flame afterburner - heat exchanger	3
wet scrubber - medium efficiency	2
gravity collector - low efficiency	2
wet scrubber - low efficiency	1

gravity collector - high efficiency	1
modified furnace/burner design	1
control of %O2 in combustion air	1
venturi scrubber	1

BASIS FOR SUBCATEGORY BOUNDS:

These units are subcategorized on the basis of similar purpose - recovering a metal part for reuse. This places them in section 129, rather than in section 112 with the scrap metal recovery units. They are kept separate from drum reclaimers, because they tend to be smaller and do not have the range of materials which can be present in drum residues.

OTHER COMMENTS:

EMISSIONS DATA from ICCRV2 database:

pollutant, CAS	average emission rate, range	data points
PM	0.19 tons per year, 0.001 - 4.28	30
PM10	0.008 tons per year, 0.0008 - 0.034	22
CO	0.048 tons per year, 0.0051 - 0.335	26
VOC	0.26 tons per year, 0.001 - 4.275	45
SO2	0.006 tons per year, 0.00015 - 0.042	40
NOx	0.34 tons per year, 0.001 - 4.0	47
Acrolein, 107-02-8	2.7E-09 pounds per hour	1
Toluene, 108-88-3	1.4E-04 pounds per hour	4
, 115-07-1	1.9E-03 pounds per hour	2
Formaldehyde, 50-00-0	3.0E-03 pounds per hour	5
Benzene, 71-43-2	1.9E-04 pounds per hour	5
Acetaldehyde, 75-07-0	7.3E-09 pounds per hour	1
Naphthalene, 91-20-3	1.1E-04 pounds per hour	3
, 18540-29-9	4.1E-05 pounds per hour	2
, 193-39-5	9.2E-07 pounds per hour	2
, 205-99-2	4.9E-07 pounds per hour	2
, 207-08-9	5.5E-07 pounds per hour	2
Chrysene, 218-01-9	5.8E-07 pounds per hour	2
Benzo[a]pyrene, 50-32-8	7.0E-07 pounds per hour	2
, 53-70-3	1.0E-06 pounds per hour	2
1,2-Benzanthracene, 56-55-3	6.4E-07 pounds per hour	2
Lead, 7439-92-1	3.0E-04 pounds per hour	2

Nickel, 7440-02-0	8.7E-05 pounds per hour	2
Arsenic, 7440-38-2	5.0E-04 pounds per hour	2
Beryllium, 7440-41-7	4.2E-06 pounds per hour	2
Cadmium, 7440-43-9	1.4E-03 pounds per hour	2
Hydrogen chloride, 7647-01-0	0.044 pounds per hour	2

DISCUSSION

- RAP content, assignments, and schedule
- Other areas for coordination?
- Future BWG/IWG coordination team meetings and teleconferences ?